

We claim:

1. A computer-implemented method operable on a process, the method comprising:  
analyzing the process against a formula using a predetermined modal logic based  
on ambient calculus to determine whether the process satisfies the formula; and,  
5 outputting whether the process satisfies the formula.

2. The method of claim 1, wherein analyzing the process comprises analyzing the  
process in a recursive manner.

3. The method of claim 1, wherein analyzing the process comprises normalizing the  
process to determine whether the process comprises only a single element.

10 4. The method of claim 1, wherein analyzing the process comprises partitioning the  
process to determine whether each component of the process satisfies the formula.

5. The method of claim 1, wherein analyzing the process comprises determining a  
plurality of names of the process, and verifying that a name exists for the formula that is  
unequal to any of the plurality of names.

15 6. The method of claim 1, wherein analyzing the process comprises analyzing each  
sublocation of the process against the formula.

7. The method of claim 1, wherein analyzing the process comprises analyzing a spatial reach of the process against the formula.

8. A computer-implemented method comprising:

recursively analyzing a process against a formula using a predetermined modal

5 logic based on ambient calculus comprising:

normalizing the process to determine whether the process comprises only a single element;

partitioning the process to determine whether each component of the process satisfies the formula;

10 determining a plurality of names of the process, and verifying that a name exists for the formula that is unequal to any of the plurality of names;

analyzing each sublocation of the process against the formula;

analyzing a spatial reach of the process against the formula; and,

outputting whether the process satisfies the formula.

15 9. A machine-readable medium having instructions stored thereon for execution by a process to perform a method comprising:

inputting a process;

recursively analyzing the process against a formula using a predetermined modal logic based on ambient calculus to determine whether the process satisfies the formula;

20 and,

outputting whether the process satisfies the formula.

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10. The medium of claim 9, wherein recursively analyzing the process comprises normalizing the process to determine whether the process comprises only a single element.

11. The medium of claim 9, wherein recursively analyzing the process comprises:  
5 partitioning the process to determine whether each component of the process satisfies the formula; and,  
determining a plurality of names of the process, and verifying that a name exists for the formula that is unequal to any of the plurality of names.

12. The medium of claim 9, wherein recursively analyzing the process comprises:  
10 analyzing each sublocation of the process against the formula; and,  
analyzing a spatial reach of the process against the formula.

13. A machine-readable medium having instructions stored thereon for execution by a process to perform a method comprising:

recursively analyzing a process against a formula using a predetermined modal  
15 logic based on ambient calculus comprising:  
normalizing the process to determine whether the process comprises only a single element;

partitioning the process to determine whether each component of the process satisfies the formula;

20 determining a plurality of names of the process, and verifying that a name exists for the formula that is unequal to any of the plurality of names;

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analyzing each sublocation of the process against the formula;  
analyzing a spatial reach of the process against the formula; and,  
outputting whether the process satisfies the formula.

14. A computerized system comprising:

5 a processor;

a computer-readable medium;

first data stored on the medium and representing a process;

second data stored on the medium and representing a formula using a

predetermined modal logic based on ambient calculus; and,

10 an analysis program executed by the processor from the medium to analyze the  
process against the formula in a recursive manner.

15. The system of claim 14, wherein the analysis program is to normalize the process  
to determine whether the process comprises only a single element.

16. The system of claim 14, wherein the analysis program is to partition the process  
15 to determine whether each component of the process satisfies the formula.

17. The system of claim 14, wherein the analysis program is to determine a plurality  
of names of the process, and verify that a name exists for the formula that is unequal to  
any of the plurality of names.

sublocation of the process against the formula.

19. The system of claim 14, wherein the analysis program is to analyze a spatial reach

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Latitude	Longitude	Altitude	Time	Observer	Remarks
41°	11°	1000	10:00	J. H. M.	Clear
41°	11°	1000	10:15	J. H. M.	Clear
41°	11°	1000	10:30	J. H. M.	Clear
41°	11°	1000	10:45	J. H. M.	Clear
41°	11°	1000	11:00	J. H. M.	Clear
41°	11°	1000	11:15	J. H. M.	Clear
41°	11°	1000	11:30	J. H. M.	Clear
41°	11°	1000	11:45	J. H. M.	Clear
41°	11°	1000	12:00	J. H. M.	Clear
41°	11°	1000	12:15	J. H. M.	Clear
41°	11°	1000	12:30	J. H. M.	Clear
41°	11°	1000	12:45	J. H. M.	Clear
41°	11°	1000	13:00	J. H. M.	Clear
41°	11°	1000	13:15	J. H. M.	Clear
41°	11°	1000	13:30	J. H. M.	Clear
41°	11°	1000	13:45	J. H. M.	Clear
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41°	11°	1000	16:00	J. H. M.	Clear
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41°	11°	1000	16:30	J. H. M.	Clear
41°	11°	1000	16:45	J. H. M.	Clear
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41°	11°	1000	18:00	J. H. M.	Clear
41°	11°	1000	18:15	J. H. M.	Clear
41°	11°	1000	18:30	J. H. M.	Clear
41°	11°	1000	18:45	J. H. M.	Clear
41°	11°	1000	19:00	J. H. M.	Clear
41°	11°	1000	19:15	J. H. M.	Clear
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41°	11°	1000	22:30	J. H. M.	Clear
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41°	11°	1000	23:15	J. H. M.	Clear
41°	11°	1000	23:30	J. H. M.	Clear
41°	11°	1000	23:45	J. H. M.	Clear
41°	11°	1000	24:00	J. H. M.	Clear